

# **Psychometric Study of the Spanish version of Bergen Social Media Addiction Scale (BSMAS)**

## **ABSTRACT**

In the last decade the number of users of social networks (social networks sites, SNS) has increased considerably, especially among young people. As in other addictive behaviors, it begins to be argued that the problematic use of SNS could become an addiction, which is why some evaluation instruments have been developed to estimate the risk of a possible addiction. One of the instruments currently used is the Bergen Social Media Addiction Scale (BSMAS). There is no Spanish version of BSMAS, so the main objective of this study is to adapt this instrument to our sociocultural context, studying its psychometric properties. For this purpose, a sample of 621 students from IES Bovalar and IES Caminás (312 women and 308 men, and one that did not indicate its sex), with an average of 15.01 years of age ( $SD = 1.173$ ), was administered a battery of psychological tests that included the socio-demographic data, as well as the personality questionnaire of the Five Factors JS NEO-A60, and the adaptation to Spanish of the BSMAS. The main results show that the scores obtained by the BSMAS present an adequate reliability of internal consistency (Cronbach's Alpha of .818); in relation to validity, the BSMAS presents an adequate factor structure of a single factor (with saturations between .580 and .794); shows medium-high correlations with the time spent on different social networks (such as WhatsApp or Instagram); as it is mainly related to the dimensions of neuroticism and low responsibility, according to what was found in adults. In short, these data indicate that the Spanish version of the BSMAS presents adequate psychometric properties for the evaluation of the problematic use of social networks in Spanish adolescents.

## **RESUMEN**

En la última década el número de usuarios de las redes sociales (social network sites; SNS) ha aumentado considerablemente, especialmente en jóvenes. Como en otros comportamientos adictivos, se comienza a plantear que el uso problemático de las SNS pueda llegar a convertirse en adicción, razón por la cual se han comenzado a desarrollar algunos instrumentos de evaluación para estimar el riesgo de una posible adicción. Uno de los instrumentos utilizados actualmente es el Bergen Social Media Addiction Scale (BSMAS). No existe versión en español del BSMAS por lo que el principal objetivo de este estudio es adaptar a nuestro contexto sociocultural este instrumento, estudiando sus propiedades psicométricas. Para ello, se administró a una muestra de 621 alumnos del IES Bovalar y IES Caminás (312 mujeres y 308 hombres, y un participante que no indicó el sexo), con una media de 15,01 años de edad ( $DT = 1,173$ ), una batería de pruebas psicológicas que incluía los datos sociodemográficos, así como el cuestionario de personalidad de los Cinco Factores JS NEO-A60, y la adaptación al castellano del BSMAS. Los resultados principales muestran que las puntuaciones obtenidas mediante el BSMAS presentan una adecuada fiabilidad de consistencia interna (Alpha de Cronbach de .818); en relación a la validez, el BSMAS presenta una adecuada estructura factorial de un sólo factor (con saturaciones entre .794 y .580); muestra correlaciones medias-altas con el tiempo que se gasta en diferentes redes sociales (como WhatsApp o Instagram); así como se relaciona principalmente con las dimensiones de neuroticismo y baja responsabilidad, de acuerdo con lo encontrado en adultos. En definitiva, estos datos indican que la versión española del BSMAS presenta propiedades psicométricas adecuadas para la evaluación del uso problemático de redes sociales en adolescentes españoles.

# Psychometric Study of the Spanish version of Bergen Social Media Addiction Scale (BSMAS)

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## INTRODUCTION

In Spain, the use of social networks sites (SNS) has expanded enormously in the last decade. From 2009 to 2018, there was an increment from 51% to 85% (Annual SNS Study of 2018). Currently, there is an open debate about whether the problematic use of SNS that could become a behavioral addiction (Andreassen, 2015; Griffiths et al., 2014).

Recently, it has been developed the Bergen Social Media Addiction Scale (BSMAS) (Andreassen et al., 2016), based on the very used Bergen Facebook Addiction Scale (BFAS) (Andreassen et al., 2012). The BSMAS has been adapted to different languages, although there is no a Spanish adaptation.

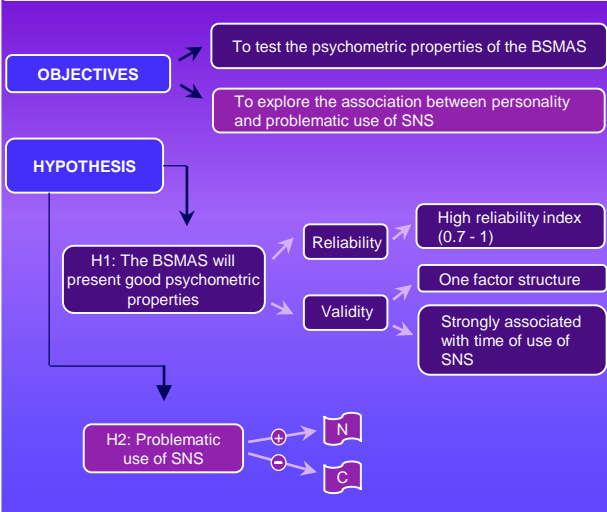
Thus, knowing the factors involved in the early development of problematic use is important to develop more effective prevention and treatment strategies. One of the factors that have been shown to be relevant in explaining various addictive behaviors is the personality (see Table 1).



Table 1: Results Addiction / Abuse of SNS's and Personality

Study	Test	n	M age	C	N	E	A	O	Study Variable
Wang et al. (2014)	TIPI BFAS	920	15.03	.02	.15***	.10**	.01	-.03	Facebook
Marino et al. (2016)	BFQ PFU	968	17.19	.01	.31**	-.29**	-.14**	-.18**	Facebook
Wilson et al. (2010)	NEO-FFI ATS	201	19.07	-.15*	.14	.28**	.04	-.06	SNS
Andreassen et al. (2013)	NEO-FFI BFAS	218	20.7	-.28**	.12	.05	-.15*	-.16*	Facebook
Kircaburun et al. (2018)	BFQ IAS	1.124	20.30	-.11**	.11**	-.01	-.19**	.02	Instagram
Marino et al. (2016)	BFQ PFU	815	21.17	.01	.22**	-.18**	-.06	-.07*	Facebook
Hawi et al. (2018)	TIPI SMAQ	512	21.23	-.11*	.26**	-.05	-.12*	-.11*	SNS
Blachnio et al. (2017)	TIPI BFAS	1011	21.48	Poland (N = 350; M = 20.87)					Facebook
				-.17**	.20***	-.06	-.11*	-.20*	
				Turkey (N = 320; M = 21.94)					
				-.24***	.16**	-.13*	-.06	-.01*	
Ukraine (N = 341; M = 21.70)									
-.28***	.27***	.05	-.01	-.09					
Andreassen et al. (2012)	NEO-FFI BFAS	423	22	-.23**	.25**	.22**	-.04	-.05	Facebook
Tang et al. (2015)	MMS (BF) BFAS	894	----	-.13**	-.32**	.03	-.08*	.01	Facebook

## OBJECTIVES AND HYPOTHESIS



## METHOD

**PARTICIPANTS**  
621 Subjects  
Sex: 50.2% Man, 49.6% Woman  
Age: 15.01 (SD = 1.173), range 15-19

**INSTRUMENTS**  
Socio-demographic measures → Age and sex.  
BSMAS → Risk of addiction on SNS (Andreassen et al. 2016).  
JS NEO-A60 → Five Factor Model (Walker, et al. 2018).  
Time spent on SNS (weekly and on weekends).

**PROCEDURE**  
The data collection was carried out in the IES Bovalar and IES Caminás, in courses from second of ESO to first of BACH.

**DATA ANALYSIS**  
Reliability →  $\alpha$  Cronbach  
Validity:  
 > Structural validity → Exploratory factor analysis (EFA) – Parallel Analysis.  
 > Pearson correlations → Time of use of different SNS  
 > Multiple regression → Personality.

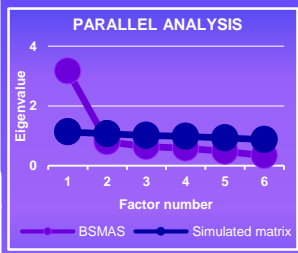
## RESULTS

**FACTORIAL ANALYSIS**

BSMAS loadings:  
 Item 1: .794  
 Item 2: .685  
 Item 3: .668  
 Item 4: .635  
 Item 5: .582  
 Item 6: .580

$\alpha = .818$

Item descriptions:  
 1. ...mucho tiempo pensando en redes sociales o planeando su uso...  
 2. ...deseo cada vez mayor de usar más y más las redes sociales...  
 3. ...has usado las redes sociales para olvidar tus problemas personales...  
 4. ...has intentado reducir el uso de redes sociales pero no has podido...  
 5. ...te has sentido nervioso o molesto cuando te han prohibido usar las redes sociales...  
 6. ...has usado tanto las redes sociales que ello ha tenido un impacto negativo en tus estudios...



**REGRESSION**

		$\Delta R^2$	$\beta$
Step 1		.07***	
	AGE		.02
	Gender		.25***
Step 2		.20***	
	C		-.16***
	N		.31***
	E		.24***
Step 3		.13***	
	A		.09*
	O		-.13**
	Time		.39***

**Use Time**

App	BSMAS
WhatsApp	.481***
Facebook	.374***
Instagram	.101*
Instagram	.425***

## DISCUSSION

On the one hand, the BSMAS has shown to have good psychometric properties (H1). The reliability index shows a high internal consistency, which indicates that the scores of this test accurately measures the problematic use of social networks. In addition, test items have shown good validity, both structural and criterial, loading them in one factor, and presenting moderate to high correlations with time of use of SNS. These results are consistent with the original version and another adaptations of BSMAS (Andreassen et al., 2016, Monacis et al., 2016, Lin et al., 2017, Bányai et al., 2017; Ahmed & Hossain, 2018).

On the other hand, the relationship found between problematic use of SNS with high N and low C confirms H2. These results are consistent with a large part of the previous studies (see Table 1).

Therefore, the BSMAS seems to be a good instrument to assess the problematic use of SNS in Spanish adolescents, although more research with this instrument is recommended.

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